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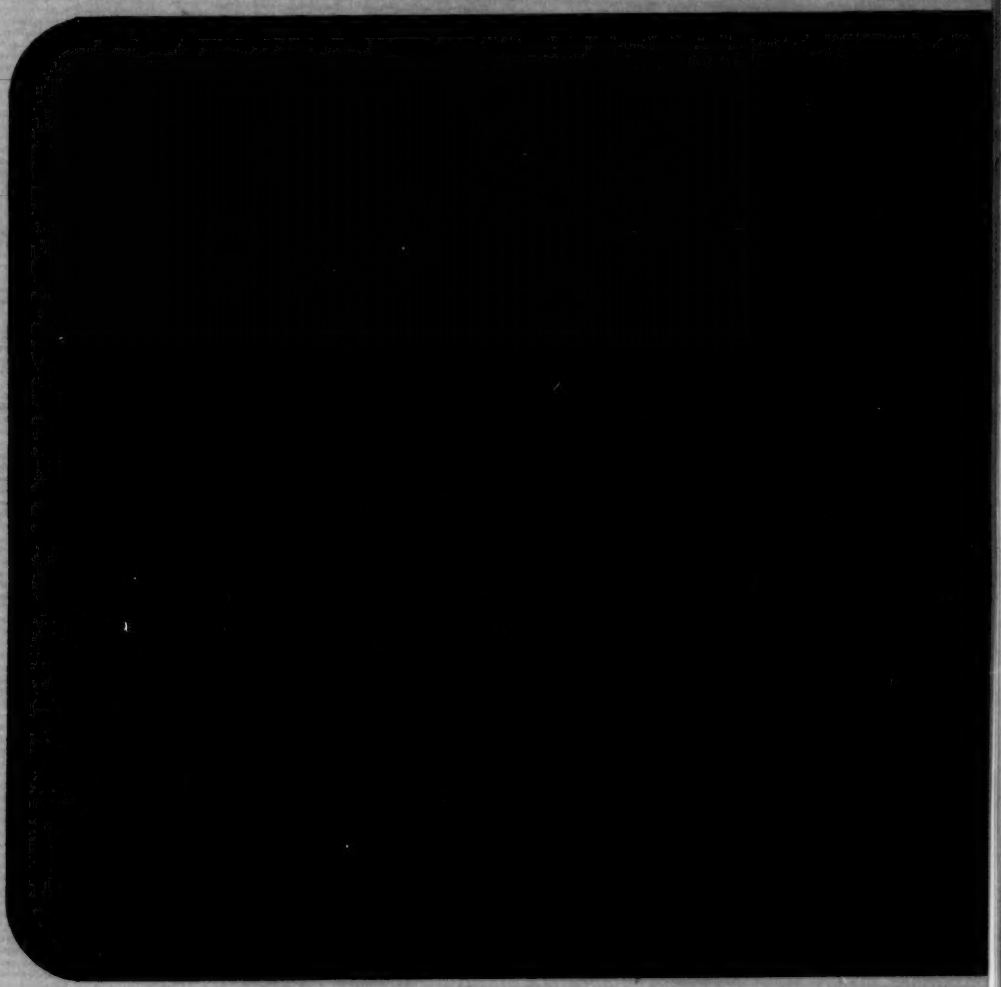

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J. PHILIP WERNETTE, EDITOR

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• *How is better education to be financed?*

Federal Aid to Education: How Much and For What?

Harlan Hatcher

I start with a truism: this is a fast moving era. It is hard to keep it in focus or in perspective. You must take some specific bench mark in time, like the prostrate Europe of 1947 and the Recovery Act or Marshall Plan Bill of April 1948, and measure it against the present prosperity of West Germany and the debate on twelfth-year extension of the Plan with a budget of over $4 billion.

Or you weigh the fact that we no longer monopolize the A-bomb, but share it with Great Britain and now France, and are in danger of being surpassed by the USSR. And we consider the new debate touched off by the missile and space age.

In industry we have only to measure the magnificent General Motors and Ford research centers in their campus settings against these same establishments when I became President of the University nine years ago. Pre-World War II plants are largely out of date and have been replaced with new ones making products that were only in the research stage a few years ago.

These are only three random samples of the nature of our changing world environment. You may add your own. They will touch every detail of your personal, community, and national life.

About the Author—

Harlan Hatcher, President of The University of Michigan, presented this address at the Congressional Dinner of The University of Michigan Club of Washington, D.C., in that city on February 24, 1960.

The University of Michigan helps create these changes. It must also respond to the changes which it has helped to effect. There are perhaps a dozen or so pace-setters among the universities in the world today. Without trying to rank them in order of distinction and service, The University of Michigan must accept the honor and the responsibility of being one of them. Our University would have to undergo constant change merely to retain its relative position. It must move aggressively forward to provide the research and training on the rising levels which the safety and welfare of the nation so urgently demand.

Time to Attack the Problems

We are having some trouble getting really conscious of the nature of these demands and adjusting to the rising level. We have all been so busy trying to keep up with the needs of our growing children on their way through nursery, kindergarten, the grades, and now the high schools, that we haven't actually attacked the problems confronting the colleges and the universities.

We haven't much time, and we can't put it off much longer.

We still seem to think that it is just a matter of some more teachers and classrooms and a TV program to accommodate more undergraduate students in our colleges. It is that, of course, but in this decade and for this generation a baccalaureate degree is only a beginning. It is now roughly the equivalent of a

high school diploma in our fathers' day.

Of the 24,000 students now enrolled at The University of Michigan, almost 40 per cent already have attained their first degree. On this one thread you may unravel the story of the swift pace of change in our time. And from it you may deduce the problems which we must proceed confidently to solve.

Our present outmoded and inadequate physical facilities bear about the same relation to the present needs in engineering, medicine, music, and dentistry, as the Mack Avenue or Highland Park plants would bear to present needs of the Ford Motor Company or Kettering's old laboratory to GM's program of modern research.

Budgets and Capital Outlays

The University of Michigan is a constitutional corporation with a budget for all operations for the year ending June 30, 1959, of $92,614,994. Of this amount, $26,000,224 was spent for research, and $40,607,583 in the general fund primarily for salaries and wages. This general fund item is the heart and center of our budget.

Of this $40,600,000, nine and a half million came from student fees, and $30,000,000 as a direct appropriation by the State Legislature.

Another vital part of our operation is capital outlay. We were making good progress on overcoming obsolescence and adding urgently needed space for our sixteen colleges and schools. But in 1957 the program came to an abrupt halt, and no money has been provided by the State for new construction since that time. The situation has gone from serious to critical in this fast-moving age. Our planned program languishes while our needs mount.

These few facts will help pose the most pressing problem the University has confronted in many years. *When* and *how* will we be able to regain our traditional place in faculty salaries to guarantee the retention of, and addition to, our distinguished faculty? *When* and *how* can we get started again on building the facilities needed by all units, but especially by engineering and the sciences, by medicine, dentistry, education, architecture, and music?

I understand that about 90 per cent of our military striking force is vested in the Strategic Air Command. I would say that at least 90 per cent of our country's creative force centers in the colleges and universities. And in many critical shortage areas, it resides in a limited number of our ranking universities. They must be nourished and supported. The whole precious future of the nation depends upon it. How shall we do it?

Federal Financial Involvement

Under the special stresses of our time, and the resulting American psychology, it has become natural and habitual to turn to Washington and ask for federal aid for a great variety of services—including some aspects of education.

The American tradition has been, and still is in theory, that full responsibility for education rests in the community, the district, or the state. By and large these local agencies have done a fair job, and in some cases a most outstanding one.

But the problem is big and getting bigger; the needs are now pressing, and becoming critical and national in scope. We have been edging into, or drifting into, or backing into stronger and stronger federal involvement. Let's take a quick look at the developing situation.

The national government is already spending heavily for research. The research demands of the country, especially in all aspects of defense, have become as stupendous as they are urgent. The scientific personnel in our universities have been called upon for help. The federal government enters into contracts with the university for this research service, and the universities have responded, often for patriotic reasons at some expense and sacrifice of mission to themselves. This is now a major assignment in institutions like Massachusetts Institute of Technology, California Institute of Technology, The University of Michigan, The University of Chicago, and the University of California at Berkeley. Ever

increasing sums of federal money go to the support of this effort. The program has become so intertwined with the institutions that serious consequences would result if this support were suddenly cut off. It amounts to about $20,000,000 a year at The University of Michigan.

Medicine and Science

The government has taken on some major responsibilities in the field of health and medical care for the nation. Research, medical training, and patient care are expensive. The federal government has given substantial aid to medical colleges and schools of public health to provide buildings and laboratories and to support certain programs of training and research. Grants from this source have enabled us to keep moving in the last two years at The University of Michigan where we have added to the laboratories of the School of Public Health, and have built, jointly with the State and foundation funds, a Mental Health Research Institute, and, jointly with private gifts, a laboratory for the College of Pharmacy.

The federal government helped us build our great new radio telescope at Peach Mountain near Ann Arbor. It recognized responsibility for helping educate the veterans who had served in World War II and in Korea. The $16 billion invested in this effort are among the most productive ever spent by the nation. It has also acted as guarantor for loans for building student housing on a self-liquidating basis.

The federal government recently extended still further its responsibility through the National Science Foundation and the National Defense Education Act. It gave some recognition to the teaching staff under the Fulbright Bill.

Gifts and Grants

It has also given aid to communities where its activities required a large number of people to take up residence and, therefore, imposed an undue burden upon the established schools, and where its installations removed property from the tax rolls. For many decades it has made substantial appropriations to the agricultural colleges for research and extension services of many types. And, in the days when the federal government had something of its own to give away, it granted government lands to the states to establish schools, and, later on, what are still termed the Land-Grant Colleges and Universities. Our great Willow Run Research Laboratories were a gift to the University by the federal government as surplus property.

This, together with school lunch programs, teaching materials, and kindred items, is not an exhaustive list, but a fair sample of the nature, extent, and magnitude of federal aid to education as it has so far developed.

What About Financing Salaries and Classrooms?

The one critical final step which has not been taken is a direct appropriation by the Congress to pay professorial salaries and to build classrooms and teaching laboratories and libraries on the campuses.

Yet, as I have already pointed out, these two items, the operating budget and the classrooms of all types, are right now among our most urgent needs, and our state legislatures are finding it difficult to finance them.

Should the federal government take the final plunge and give aid for these purposes?

One of these days the Congress will have to give an answer to this one. It may not be one dramatic act, but a series of smaller ones that will drift us into a policy.

This is a question that needs the most careful study and appraisal. We need to know what we are doing and why. I will make a few observations on it. Education for the growing child population is a national necessity. Research and training on the advanced graduate and professional level and in certain critical shortage areas has now become equally vital to the United States as a nation. The traditional interest of the individual states meshes with the new and advanced collective needs of

the Union. It is already a serious question whether the single efforts and decisions of each separate state can do what the nation as a whole must have done. Our few distinguished private institutions which are equipped to serve this need can carry only a part of the load. The responsibilities of publicly supported universities are grave and inescapable.

Taxes: Federal and State

By and large the states have done well by their universities. But the individual states consider themselves handicapped by the present tax structure and the philosophy behind it. In any quest for taxes the federal government comes first. The Congress of the United States can and does levy and collect taxes in Michigan beyond the imagination or practical power of the Legislature of the state. The Legislature says taxes are already too high, and that other sources of revenue have been preempted by the federal government. They may recognize the needs of higher education for staff and facilities but they say they cannot find the money after the federal government has taken its levy.

Increasingly the mood of the local units is to cut back or stand still, or to seek aid from the federal government. Yet the hard fact remains that the Congress has no money it does not collect from the same people whom the Legislature says it cannot tax further. It is a head-on collision nearing a stalemate. Some accommodation to the dilemma must be found soon.

It seems unlikely that state legislatures will move far enough and fast enough to do what is nationally required.

The Alternatives

It is certain that the nation as a whole must have bold, vigorous and immediate action to protect its stake in education, particularly on the highest levels where the expense is greatest.

The Congress, therefore, has a limited number of choices. To be exact, it has three.

1. It could make a direct appropriation in some form to help support faculty salaries, to provide laboratories, libraries, and classrooms, and to aid the general operation's budget. Serious problems of philosophy, tradition, law, and administration attend this one. This is the step not yet taken and it has many pitfalls that should be carefully marked and labeled.

2. It could voluntarily and with stated intent relinquish certain sources of revenue, or allocate earmarked funds, to the states on which they could levy for the support of education.

3. It could enter into partnership with the legislatures in determining what joint responsibilities they share on the national and state level, and it could then exercise its more potent taxing power to see that the national as well as the state interest in education is served. The University Grants Committee of Great Britain is one possible form which this solution might take.

A possible fourth choice, that of a hands-off policy, has long since been exercised as we have already indicated.

It is possible that any of these alternatives could be operated within the American tradition of local responsibility and control in education. It is no longer a question of federal aid, but of how much, in what form, for what purpose.

We cannot permanently drift along in our new world setting without a more rational and assured plan of support for our universities, and we should have a firm and acceptable rationale for federal participation.

The Republic and Its Values

At this point one looks again at our great and wonderful Republic, and the values for which it stands. Our pride in our achievements for our people is matched only by the envy or the determination of other nations to catch up with and overtake us. These countries know that education is the key that unlocked the door to greatness for us. They are emulating us in this. The dividends which they are beginning to reap are gratifying to them.

We may not slumber or sleep or grow com-

placent. We must press on for the right things. And then we must be willing, after sorting them out and marking their value, to pay for them.

Why are we all working so hard? What do we want to buy with our higher wages and bigger dividends?

Of course we want to buy houses, cars, food, clothes, and other private spending items. We also want to buy education, general health, roads, and reasonable happiness and security for our children, ourselves, and the older members of our families, and for our country.

These services can be had for most of our people only through the group investment principle of individual payments to a responsible operating agency. Unfortunately we have no better label for this investment or purchase plan than the annoying and unlovely word, taxes. This sorry word was disfigured long ago by the arbitrary tax-gatherer of ancient and selfish tyrants. It, therefore, has wrapped round it an aura of extortion, of robbery, of seizing the substance of the needy family to gratify the lust of the idle.

The Great American Investment Trust Fund

We need a new name for our service-purchase plan. Perhaps if we called it our quarterly payment to the Great American Investment Trust Fund we might understand the process better and participate more willingly.

We could advertise it with the approval of the Securities and Exchange Commission as the one gilt-edge, blue-chip, growth-stock corporation that is guaranteed to hedge us against inflation and yield the highest dividends and richest returns on our investment.

Then we might talk more realistically about the things we must buy for America, and decide more rationally which we shall pay for by private purchase plans, and which and how much we shall buy for the citizens as club members.

The USSR resolved this by virtually abolishing the freedom of choice of the individual. Its leaders are quite boastful of their plan of complete state authority and imposed control. They claim that this is the way of progress and the future, and that they will overtake and surpass this "supreme achievement of capitalism" which is America.

I honestly don't think they will. And I think our way of diverse support and individual freedom can meet the challenge. But I shall feel a lot happier about it when we shed a little more of our easy complacency, and face up to the inescapable and demanding fact that we must get on with the exciting and rewarding task of making and keeping our great universities the best in the world. The extra margin that produces greatness makes all the difference in the returns.

THE BUSINESS OUTLOOK FOR THE 1960's

NEW FORCES IN AMERICAN BUSINESS: *An Analysis of the Economic Outlook for the 60's.* New York, McGraw-Hill Book Company, 1959, 278 pages, $4.75.

Dr. Dexter M. Keezer, Vice President and Director of the Economics Department of the McGraw-Hill Publishing Company, and five of his associates in that department have written a book about the coming decade based on careful research and including twenty-three charts illustrating key points. Topics covered include these: the outlook for growth, industrial research and its significance in terms of new products and new machines, the changing consumer market and new techniques in marketing, the expanding role of government, the nature and extent of competition, the prospects of avoiding inflation, the agricultural problem and policy, and United States business in relation to the world overseas.

Appraisal: **excellent reading for the forward-looking executive.**

—J. Philip Wernette

Karsh-Ottawa

Donald K. David

recipient of the third annual

Business Leadership Award

Business Education for America and the Free World

Donald K. David

NEARLY every professor—and most of all, a retired dean—hopes he has earned the esteem of his professional colleagues. But rarely are we so daring as to hope to win the regard of students as well as faculty. What is appealing to one, too often is repelling to the other. You may therefore understand how deeply touched I am to receive this honor from both faculty and student body. In fact, my gratitude is rivalled only by my amazement that both were able to agree on the same man at the same time! It simply demonstrates again that The University of Michigan is a very broad-minded institution.

Tonight I want to take advantage of the fact that this is an outstanding School of Business Administration. From the secure platform of your excellence, I'd like to discuss some of the shortcomings of business education in our country today; both from the standpoint of the domestic economy, and from the standpoint of the relationship of that economy to the rest of the world.

To cover such a wide compass in the time at hand tonight, I shall be guilty of some superficiality. Although I would condemn such a crime had it been committed by a student of mine, I will confess to it gladly if I can suggest to you some sense of mission in your education and in your subsequent use of it.

Lack of Interest in Being Educated

First of all, too many students in Schools of Business Administration are not really interested in being educated. And too many faculty members are partners in this dereliction.

Many specifications could be cited to support the charge. Some of the most vigorous thought on the subject has occurred right here on this campus. And now, all of us interested in this field are indebted to two broad and thorough studies of the state of business education in the United States. The first of these is the report by Professors R. A. Gordon and James Howell, titled *Higher Education for Business,* which was financed by the Ford Foundation; and the second is Professor Frank Pierson's study for the Carnegie Corporation, titled *The Education of American Businessmen.*

They document the misgivings many of us have long expressed. They lend support to

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About the Author—

On April 13, 1960, Donald K. David became the third annual University of Michigan School of Business Administration Business Leadership Award Medalist and Lecturer.

Mr. David was graduated from the University of Idaho and received an M.B.A. from Harvard University. He has been awarded honorary degrees by eight colleges and universities. He is a member of Phi Beta Kappa and Phi Delta Theta. He served on the faculty of the Harvard Graduate School of Business Administration from 1919 to 1927. From that time until 1942 he held executive positions in business firms. He returned to Harvard in 1942 to become Associate Dean and then Dean of the Business School. He retired from the latter position in 1955.

A member of the Board of Trustees of the Ford Foundation since 1948, in 1956 he was elected Vice Chairman of the Board.

He is Chairman of the Board of the Committee for Economic Development, a director of six corporations, and holds other civic memberships.

some of our severest judgments. Yet, in their appraisal of what the best in business education can really accomplish, they offer us constructive guides and exciting prospects.

This means the disappearance of the student who looks upon business education as the means of picking up a few useful tools that will help him land his first job. And it means the disappearance from university faculties of teachers whose concepts and capabilities do not extend beyond imparting a set body of how-to-do-it material. Students and teachers with these goals and capabilities belong in vocational high schools or junior colleges.

Education for the Future

This assertion may sound harsh, or, at best, undiplomatic. Establishing standards of professionalism is always a harsh master and inevitably involves stern discipline. And, above all, the function which business education should—indeed, must—perform in fulfilling the goals of our society requires the pursuit of quality.

Viewed from this perspective, a shadow is even cast over those good teachers who strive to find and teach the best of current business practice. This is because the best of today simply is not going to be good enough for tomorrow. For in business education particularly, the fact that we are training tomorrow's leadership must be moved out of the realm of the platitude and into the arena of daily application.

From the ranks of today's students of business administration should come the top management men and women of tomorrow—that means about 25 years from now. Thus, the task of the business school is no less than to provide them with equipment for making economically sound and socially responsible business decisions in 1985.

Obviously, no school can teach a student all he needs to know for a managerial career in the rapidly changing world of the next quarter century. This is especially true if the vision of students and faculty is fixed on nuts and bolts and neglects problem-solving, organizational skills, the use of analytical tools, and the relations between the business world and the rest of society.

But a business school can teach its students to continue to learn. President Conant, when at Harvard, described true education as "a continuing voyage."

By, Through, and With People

Professor Pierson, in his study, concurs in the conclusion which Professors Gordon and Howell state in their report in these words – that business education "should emphasize the development of basic problem-solving and organizational skills and socially constructive attitudes rather than memory of facts or training in routine skills."

I have long believed that the more important concept in "business administration" is not "business" but "administration"; that is, the knack of getting the world's work done by, through, and with people. The concepts of administration can and are being taught and there is plenty of evidence that students have learned. The study of administration brings to bear many of the social sciences—psychology, sociology, political economy, and the study of the ethnic cultures.

A growing and important road for education which can be studied and taught is in the field of mathematics and statistics. I do not refer to their conventional use so much as to that broader range in which judgments must be made in the presence of intangible values, dimly perceived risks, and multiple objectives. I do not for a moment mean to suggest that these new tools can be substituted for management competence, perspective, and judgment, but their introduction into management's skills will bring a broader understanding to the administrative process.

Requisites for Understanding

And further, I do not believe that one can arrive at "socially constructive attitudes" without an understanding of what has gone before and its relevance to our present and future problems. Only in the humanistic stud-

ies can one get the perspective that one needs to understand, let alone deal with, these important aspects of administration.

And certainly today a successful manager must be aware and have some understanding of the great scientific advances being made which affect American business so directly, if only to organize and stimulate scientific research and application by scientists. He must have some sympathetic knowledge and appreciation of the scientific approach and as much goes of course for the day-to-day use of other specialists, such as lawyers, consulting engineers, advertising agents, or even accountants.

So we see that instead of standing alone business education needs to call on much that a great university or even a small college has to offer. There needs to be a challenge made to the best scholars and scholarship in many fields to apply their interest and knowledge to the business scene.

Developing these broader capacities and stimulating the desire to use them is the central task of business education. It is a task of historic importance.

The Struggle of Civilizations

At least for the lifetime of all of us here today we shall be in a continuing struggle of civilizations. Mr. Khrushchev has openly issued his declaration of war upon our way of life. There is, in addition, the undeclared but equally portentous struggle against the hunger, disease, and poverty that hold in captivity the majority of the people on this earth. This second enemy knows no ideology but is too often the tragic prey of the demagogue.

One of the most precious aspects of our civilization is its broad diffusion of power, its wide dissemination of decision-making. This is particularly true in the area of critical importance—the area of economic performance.

The functioning of our economy depends upon no less than eight million economic "teams." This is what Professor Slichter used to refer to as "millions of centers of initiative." It is the total of the decisions in these eight million teams that determines whether our economy grows or stands still; falters or forges ahead.

Our whole civilization is based on the faith that the freedom to choose will create a more productive result than centralized, dictatorial direction. Developing the capacity to make wise choices is therefore the central task of a society that would remain free. And nowhere does this task come to sharper focus than where the choices involve the economic strength of our society.

The Businessman as Catalyst

In a free enterprise system it is the businessman who is the catalyst of all the factors of production. It is he who brings these components together and welds them into an economic unit in the production of goods and services. If his role is narrowly conceived, he is not making his fullest contribution. If he functions without regard for the rest of the economy, he could actually create problems, since no business operates in a vacuum.

The ability to make a business grow and prosper, to increase its productivity and arrive at some equitable distribution of that increased productivity among capital, labor and the consumer is far more than an end in itself. It is an indispensable part of our national strength. And the spirit that animates it is a vital aspect of our national character. It is this strength and character that we build at home that determines the role we will play abroad.

Is a growth rate in our economy that averages three per cent per year adequate to our responsibilities at home and abroad? Are we capable of greater growth without massive government intervention and control?

One of the most crucial debates of our time centers on these questions. Like you, I have my convictions as to what the answers should be. But what they will be is being determined to a large extent by the skills, capacities, and attitudes now being developed in our schools of business administration. It is an awesome responsibility, and I only wish I were confident that adequacy measured up to the responsibility.

Meeting the Needs of the World's People

But here on this campus, and on several others, we can find real bases for hope. The guides that are demonstrably sound exist. All we need is the willingness to seek them out and then vigorously advance toward where they point.

I have already suggested they point to the development of a more dynamic and dependable economy at home. But they point also to a more determined effort to develop and apply similar skills, capacities, and attitudes abroad.

The struggle with the ideologies of the Soviet Union and of China will be settled in all likelihood, in one of two ways. The first could be a contest of hydrogen-headed missiles overhead, in which case most of us would never learn who, if anyone, won. The second could be in the demonstrated ability of our respective ways of life to meet the needs of the world's people.

If we choose the first contest, then our only alternative would seem to be the development of the Fortress America concept which, as a recent Presidential Commission stated, means "taking our first stand in the last ditch."

But we are already in the second war. Khrushchev has declared it. We must demonstrate our ability to defeat the age-old enemy of hunger, disease, and ignorance, and to do it more rapidly, more effectively, and with greater dedication to freedom and justice than any rival system.

The Supreme Opportunity for Business Education

Historians like Arnold Toynbee are telling us that for the first time in history man possesses the knowledge and resources to eradicate these three agents of personal tragedy and international unrest. It is ironic, then, to realize that more than half the world's people subsist on an average per capita income of less than $100 a year; that almost as many can neither read nor write; that nearly half the children on earth under 14 will die of starvation and preventable disease before they reach their fourteenth birthday.

Let me state the matter in less sentimental terms. If the goods and services exist on one hand, and a tremendous need or market for them exists on the other, is this not a challenge to anyone with the slightest spark of talent for business administration? What entrepreneur could have a more exciting dream? Yet, this is the reality. That is why, in today's world, business education, conceived in terms of problem-solving, the development of analytical and organizational skills and a sense of political and social responsibility, confronts its supreme opportunity.

Too much of our thinking about economic development abroad is a prisoner of the experience gained in postwar Europe. Certainly, our efforts to help Europe restore its war-devasted economy have been highly successful. In fact, Europe's competitive capabilities are such that a few American producers ruefully wonder if the effort wasn't almost too successful. The more thoughtful ones agree, however, that a competitive Europe is better than a Communist Europe.

Different Regions, Different Needs

But the fact we too often overlook is that in Europe we were dealing with a highly developed industrialized society. Much of the plant had been swept away by war, but the human resources were there. The technical and managerial skills were there. Legal and admintrative systems to support them were in existence. Our prime role was to provide the capital and the goods which could turn these talents back to productive effort.

But in Asia, Africa, the Middle East and most of Latin America the emphasis is entirely different. It is a difference of prime importance to our educational institutions, in general, but to our institutions for business education most especially.

In most of these areas, money and capital equipment will not in themselves meet their needs. In fact, some of them don't need capital at all, and in most of them capital is not the priority requirement. What they need most urgently is administrators, organizers, managers,

entrepreneurs. In other words, what they need most is precisely what our schools of business administration are supposed to be able to produce.

The need for these qualities is being recognized increasingly by thoughtful leaders in the underdeveloped countries. But in many of them, strong resistance born of history and environment must be overcome.

Management Attitudes

In many of these countries, management simply will not or cannot take the long-range view. The idea of building a strong organization for long-term growth is rarely encountered. In an environment where political upheaval might put one out of business tomorrow, and has done so in the past, the quick turn for the high profit is often the dominating business policy. Production thus becomes geared to specialized output for the high income few. Mass production based on large markets and small profit margins often isn't even imagined. The experience of Sears, Roebuck in Mexico illustrates this point. Every supplier was asked if his employees bought his product. If not, he was told to get his prices down to where they would and could buy it. Some suppliers never recovered from the shock—but those who have are discovering ever-widening economic horizons.

In nearly all of the underdeveloped countries, where local business enterprise exists at all, the family enterprise predominates. The concept of professional management has been conceived in several but born in only a few. Heads of firms admit freely that they would rather fill a position with an untrained relative than with a competent stranger.

Relations between superiors and subordinates tend to be authoritarian or paternalistic or both. The inability of middle management from outside the family to look forward to advancement hampers creative initiative and innovation. The end result is that the economic decision makers are more intent on preserving the status quo than to submit to the uncertainties of change. But change is what the vast bulk of the people in these areas are determined to bring about.

Business Education for Underdeveloped Countries

Now, what do circumstances such as these mean for our schools of business education?

If it is in our national interest to see that the underdeveloped countries acquire the skills and human resources needed for rapid economic growth, then we must ask ourselves if our educational institutions and arrangements are able to respond effectively to the need. Here we face a compounding of the deficiencies in training for domestic business management.

An American student who attends a school of business administration which focuses on teaching the best in current practice is probably only wasting an opportunity. But a student from an underdeveloped country taking this same course may be acquiring a positive handicap. As a matter of fact, this very state of affairs is one of the barriers to progress in the underdeveloped countries right now.

For years transplanted courses of this kind have been offered in universities in India, Pakistan, Egypt and other countries. The textbooks used contain outdated descriptions of now altered business practices and institutions in the west. Teaching materials dealing with relevant business institutions in the country concerned are not to be found. Businessmen understandingly reject such training, calling it "too theoretical," and they consign the graduates of such institutions to clerical positions. And, of course, the teachers of such institutions wield no influence whatever in effecting needed changes in business practices and environment.

Hopeful Developments

There are, however, some hopeful developments. In India, for example, there are now seven programs at major universities providing training in business and industrial administration for persons already employed at the middle management level. Most of these three-year evening programs are directed by persons

with graduate degrees in business administration from American universities. The students are given opportunities to flex their intellectual muscles through work via the case method and other problem-type exercises. They are brought in touch with business reality through plant visits and interchange of teachers and speakers from industry.

American teachers of business, as well as teachers of business trained in American institutions, can now be found in such diverse places as the University of the Punjab in Pakistan, the Vargas Foundation in Brazil, the University of Istanbul, the University of Rangoon, and the University of Indonesia. In the current academic year alone, nearly 3,000 students from the Far East, the Near and Middle East, Latin America, and Africa are enrolled in business programs in American colleges and universities.

Building Enterprises and Training Enterprisers

These facts, I suggest to you, add a whole new dimension to the question of quality in our schools of business education. Just as we must endow our own students with the capacities for making decisions in a changing environment, so we must endow those from abroad with capacities for organizing and building enterprises in an environment which is both changing and different. It also means developing within our own society students who are filled with the urge to convey the values of our way of life and help build the institutions for fulfilling them.

This mission belongs to the teacher who undertakes a tour of duty in an educational institution abroad, to be sure. It also belongs to the contractor building a dam or road, in a remote region, or the engineer, or plant manager, or purchasing agent who goes abroad for his firm. It belongs, in short, to all of us who see as one of the major needs of our time the building of enterprises and the training of enterprisers.

The Importance of Production

The struggle for the survival of our way of life in this world is taking place in terms of economic production. In the free world we pin our hopes on free men making for us the goods needed for a life of dignity through private enterprise. The totalitarian world has declared war on the free world and intends not only to out-produce us at home but to demonstrate to the less developed world that the only road to economic salvation is a rejection of freedom and an embrace of totalitarianism.

American business education has a most important role to play in the struggle. It must develop managers for a strong America, and it must aid educators throughout the free world in developing the pattern of business education that will accelerate industrial growth along lines consistent with democratic ideals.

The export of our talent may prove to be even more important than the export of our money. The economic war is on and we need our best troops to fight it. Here is where our education for business meets one of its great challenges.

"I DARE YOU . . . ."

Counseling is the positive side of control—an area which needs lots of exercise in most organizations. Seems expensive but is the best investment you can make in people. Think about it!

I DARE YOU TO TALK WITH TEN OF YOUR EMPLOYEES NEXT WEEK ABOUT THEIR WORK

. . . don't rake them over—just visit with them* and let them tell you about their needs. (Be sure and make the situation comfortable—relaxed. Remember too, what's comfortable for the Chief may not be so for the Indian.)

—Dr. Hilton D. Shepherd, in his monthly publication, JOTS AND JOLTS, December 1959.

*** Some may faint but they'll recover.**

• *Highlights of 50,000 interviews*

George Katona's "Powerful Consumer"

Robert W. Beyers

BY any yardstick, the consumer is king of the American economy. In 1959, for example, personal consumption expenditures ($312 billion) far surpassed government purchases ($97 billion) and business investment in new plant and equipment ($37 billion).

Yet relatively little is known about this consumer monarch—how he thinks about the economy, what factors influence his major decisions, why his moods change. Many theories have been offered to explain his behavior, but few efforts have been made to take his psychological measure.

Now, however, comes a comprehensive book about consumers by George Katona, University of Michigan economic psychologist.

As head of the U-M Survey Research Center program in economic behavior, Katona has directed more than 50,000 interviews with consumers over the past 14 years. His findings, summarized in *The Powerful Consumer* (McGraw-Hill, $6.50), are the largest single source of basic information on consumer psychology in this country.

Here, in brief, are his major conclusions:

1. *Consumers help stabilize the American economy.*

Most consumers have no detailed understanding of intricate economic activities, but they do have a good deal of economic "horse sense."

In 1949, when many experts feared a depression, consumers refused to panic. Again, in 1954, consumers stopped economic decline and led the economy upward. And in 1958 steady consumer spending for non-durable goods and

CHECK YOUR CONSUMER I.Q.

Do you agree or disagree with these statements?

- ***Buying's mostly a matter of how much money you have.***
- ***Consumers contribute to creeping inflation.***
- ***In this inflationary period, saving has become old fashioned to many Americans.***
- ***Wealthy families generally set the pace in making new goods and services popular with the public.***
- ***Most people are not content with their present income.***
- ***Consumers generally aren't concerned about deficit spending by the federal government.***
- ***People may reduce their spending if they read and hear a lot of "bad news" about the economy.***
- ***Quite a few consumers think the little man is manipulated by "big business."***
- ***As a group, consumers are more inclined to rock the economic boat than businessmen.***

You can take your place at the head of the class if you recognize that not one of these statements is true. The reasons why are described in the accompanying article.

About the author—

Robert W. Beyers has covered The University of Michigan Survey Research Center for the past five years as a reporter and assistant managing editor of U-M News Service.

services kept a recession from spiralling into a depression.

Only twice in this period did consumers tend to rock the economic boat. At the outbreak of the Korean War, there was scare buying and hoarding of goods. In 1955, consumer spending for cars and other durables shot up sharply—boosted by liberalized credit from business. But in the following two years, consumers refused to follow the lead of industry in raising their purchases still further.

Largely unorganized, consumers are much less inclined toward economic excess than the more closely-knit business community, Katona explains. As an economic "balance wheel," consumers have minimized the need for direct government control over business policy and central planning of business investment.

2. *Consumers have a fundamentally conservative view of the economy.*

Deeply engrained, stereotyped notions play an important part in their understanding of business news. "What goes up must come down" is a common reaction to price increases. In boom times, consumers feel that "trees don't grow to Heaven." The forces that generate economic trends are not thought inexhaustible; the longer a trend continues, the more the consumer watches for a reversal.

Business news is evaluated in terms of personal experience. Prosperity is viewed with skepticism by consumers who have not shared its fruits. In a recession, knowledge of unfavorable economic events may result in a more favorable appraisal of personal financial situation.

This serves as the basis for renewed confidence and optimism. To suppress or "sugar coat" bad news for fear it will create mass hysteria is not necessary—and may even be dangerous, Katona notes.

No matter how they view the economic outlook, consumers are reluctant to back the most probable development with all their resources. This diversification helps keep the economy on an even keel.

The persistence and conservatism of consumer attitudes is also illustrated in the widespread and stable conviction that inflation is bad. Many consumers have experienced the best years of their lives at a time when the cost of living mounted steadily, yet this experience has not changed their attitudes toward inflation.

Consumers likewise see government deficits as bad, even though most years of deficit spending were prosperous. And many consumers maintain that rearmament is an unfavorable economic development, often in contradiction to their own personal experience.

3. *Most families have developed ways of controlling their spending.*

Although few families figure their budgets to the last penny, the fairly large share of income used to pay fixed obligations—mortgage installments and life insurance, for example—helps most Americans keep track of their spending.

Installment buying also reduces the amount of money available for other purposes, thus contributing to self-regulation. Taking their own personal shortcomings into account, many consumers who have the cash available or could accumulate it fairly quickly use installment credit as a way of forcing themselves to save.

Past buying practices, reinforced by satisfactory use of products, govern many of the remaining purchases. To an expert observer, a consumer's reliance on advertising or loyalty to a particular brand or store may seem exaggerated. But these habits may be broken if a new situation arises.

Strong group factors—assurance about buying well by doing what friends and neighbors do—and "in-the-store" factors, such as the arrangement of displays or wrappings, also influence consumer choices. But impulse buying, in the sense of whimsical purchases, is of less importance to the economy than occasional genuine decision-making and very frequent manifestations of habitual behavior.

The consumer—like the businessman—is a human being, influenced by his past experience. He is apt to prefer short cuts, follow

rules of thumb, and behave in a routine manner. But he is also capable of acting intelligently. When he feels it really matters, he will deliberate and choose to the best of his ability.

4. *Consumers fight creeping inflation.*

During the last two decades, most Americans have felt inflation was bad. This conviction was not shaken by the fact that the years of inflation were good years.

In discussing inflation, most people focussed their attention on rising food prices, especially the price of meat. When asked about the reasons for price increases, they most frequently mentioned higher labor costs and sustained demand for goods.

Except during the early phases of the Korean War, relatively few consumers thought that government, trade unions, or business forced prices upward. In 1955, a University of Michigan survey found that most Americans specifically denied that profiteering was a factor causing inflation. Most people felt business was interested in stable or lowered prices.

The proportion of people expecting long-range price increases reached its highest during 1956–59. Yet even in these years fewer than one-half of all consumers believed the U.S. faced a period of enduring price advances. Katona declares:

"The idea that price increases are a chronic feature of our economy has gained adherents but has not become general. The theory which postulates that union power, high government debt, and spending inclinations of Congress are enduring features of our society and make for an inflationary age has thus far not entered into the thinking of the majority of the American people—not even of those in the upper income brackets."

When consumers expect small price increases, they tend to fight inflation by reducing the demand for cars, appliances, and other durable goods. Scare buying and hoarding occur only when substantial price increases and shortages of goods are anticipated, as happened after the Korean War began.

"The danger that creeping inflation will be transformed into galloping inflation is not too great," Katona continues. "The attitudes opposing inflation are deeply ingrained and have proven fairly resistant to repeated inflationary experiences."

5. *Inflation has not upset consumer saving habits.*

Despite inflation, many people do not think they fared badly with their savings in the past. Even though government bonds may buy less today than 10 years ago, many people believe having $100 today is better than having spent $75 on many small and unimportant things a decade ago.

Although many people expect modest price rises in the future, they are not certain this trend will continue. On the other hand, they are quite sure they need savings because the future is unknown. And they like to put their savings into bank accounts and government bonds because they have fixed values, are not risky, and do not require expert knowledge.

Why do consumers save? Most are interested in protecting their families from financial disaster and giving their children the best possible education. (Surprisingly, even among those with annual incomes of $10,000 and more, only one family in 20 mentions the desire for passing a fortune along to their children as a reason for saving.)

In addition to providing for "rainy days," consumers save for retirement, for down payments on a house, and for their own business firms. All these goals require a substantial amount of money and usually can be achieved only over a period of more than a year.

In contrast, buying of automobiles and appliances is not commonly seen as an objective for saving. Most Americans regard this kind of purchase as a current expense, which could be met out of their earnings in regular installments.

But neither the popularity of credit buying nor the spread of collective insurance programs has sapped the basic willingness and desire of Americans to save, Katona contends.

In fact, the minimum protection afforded by social security and other collective types of insurance actually may stimulate purchases of

life insurance. "Without these collective programs, many lower and middle income families could not escape economic insecurity," Katona explains. "With them, people may feel closer to their goal of economic security and be highly motivated to achieve it."

"For most people saving is something positive," Katona declares. "It is not merely a consequence of not spending, but rather the result of substantial pressures directed toward achieving highly valued goals of life. Saving is considered most important and its absence is greatly regretted.

"In all these respects the acquisition of money and wealth resembled the acquisition of goods of permanent value, such as homes and durables. And in all these respects there has been no change in recent years."

6. *Middle-class consumers largely determine the popularity of new products.*

Whether any new product becomes popular with the public today depends not on the very wealthy but on innovation-minded, middle income families. Acceptance by the innovation-minded largely determines whether a new product's market remains limited to less than a fourth of the nation's families or whether it spreads rapidly to cover virtually the entire population.

About one in five families is innovation-minded. In general, these families are middle-aged, married and have children. They have incomes of $5,000 or more and have recently enjoyed or expect income increases. They own their own home, equipped with such "traditional" appliances as a range, refrigerator, washing machine and TV. Innovation-minded families also are apt to be more interested in new product features, and to buy more modern household appliances as a result.

Perhaps the most widely watched innovations in this country are the annual model changes of the automotive industry. U-M surveys have shown that only a few Americans regard these change-overs as forced obsolescence, or an industry-wide effort to diminish the value of cars in use.

Many more people greet the new models year after year as representing improvements in operation as well as appearance. This reception was most enthusiastic in 1955. But when people like something, it does not follow that they will also like more of the same—as the auto industry learned in the years after 1955.

Similarly, growing sales of small cars in recent years do not indicate that people want nothing but small cars. In fact, the trend toward two-car families may be based on recognition of the different functions served by large and small cars.

This and other facets of America's rising standard of living illustrate one basic psychological phenomenon important to our economy. The achievement of one important goal—a new car or a home, for instance—does not make consumers content. Usually it results in the creation of additional new needs—a second car, perhaps, or a summer cottage.

7. *America's expanding economy has given great new power to the consumer.*

In a poor economy, most people must spend all their income for food, shelter, and clothing, simply to survive. In the U.S. today, the role of the consumer is fundamentally different.

Several major developments have substantially increased the power of American consumers. These include:

A. *Changing income patterns:* We now have broad middle and upper-middle income groups, rather than masses of poor people and a very few wealthy persons. Millions of families now are in a position to spend money on things besides the basic necessities.

B. *Increased financial reserves:* Prior to World War II, most families had no bank deposits or government bonds. The total liquid assets of American families was approximately $45 billion. During the war, about three out of four families bought some savings bonds or started savings accounts. Total personal liquid assets rose to $145 billion. While spending increased substantially after the war, by 1957 total savings and reserve funds amounted to $175 billion.

C. *Credit buying:* This practice has become

generally accepted today, especially among middle income families. About two-thirds of all families have some kind of debt. This reflects both the easy availability of credit and psychological acceptance of buying on the cuff.

D. *Technological advances:* Over the past 50 years, consumers have enthusiastically accepted technological change and improvements in durable and non-perishable goods.

E. *Increased intelligence:* The economic knowledge of the American people has increased substantially in recent years. News, whether good or bad, spreads rapidly and, because of the centralized nature of news sources, fairly uniformly throughout the U.S. Consumer discretion could hardly influence the economy if broad masses of people were entirely uninformed of economic events.

Reflecting these changes, discretionary spending is now very widespread. Between 1950 and 1957, close to one-half of all American families made a major expenditure for durable goods every year. These purchases were usually not made on the spur of the moment. More often they came after considerable discussion among family members.

But the fact that most of these purchases were not necessities increased the importance of psychological factors in consumer buying. The postwar period has shown that both the *ability* to buy and the *willingness* to buy play key parts in consumer spending, Katona emphasizes.

8. *Most consumers are optimistic about America's future.*

Psychologically, World War II marked a clear break with the past. The Employment Act of 1946 embodied two lessons widely learned by consumers—that depressions are not inevitable and that the government can help maintain full employment.

Well over half the 50,000 families interviewed by the Survey Research Center since this Act was passed have said flatly that nothing like the Great Depression could ever happen again.

When asked why they felt this way, few people mentioned war-related production. Most talked in terms of public works and other types of government spending. The public also credits American business with power to help sustain prosperity, though to a somewhat lesser extent than the government.

The idea that the little man is manipulated by big business has become practically nonexistent. Most consumers are convinced that competition between business firms exists and that it works to their advantage, both in lower prices and better products.

So far as their own personal economic situation is concerned, most Americans have held a highly optimistic view of their long-term prospects. Out of every 10 persons, five expect their income to increase over the next few years, four expect it will remain about the same, and one anticipates a decline. Older persons are numerous in the last group.

The great majority of Americans today have never been out of a job. Even among unskilled workers, the group most commonly hit by unemployment, only about one in three persons say they've ever been unemployed.

Nearly three out of four workers are satisfied with their progress on the job. Almost as many are satisfied with their standard of living. And a substantial majority are satisfied with their present income.

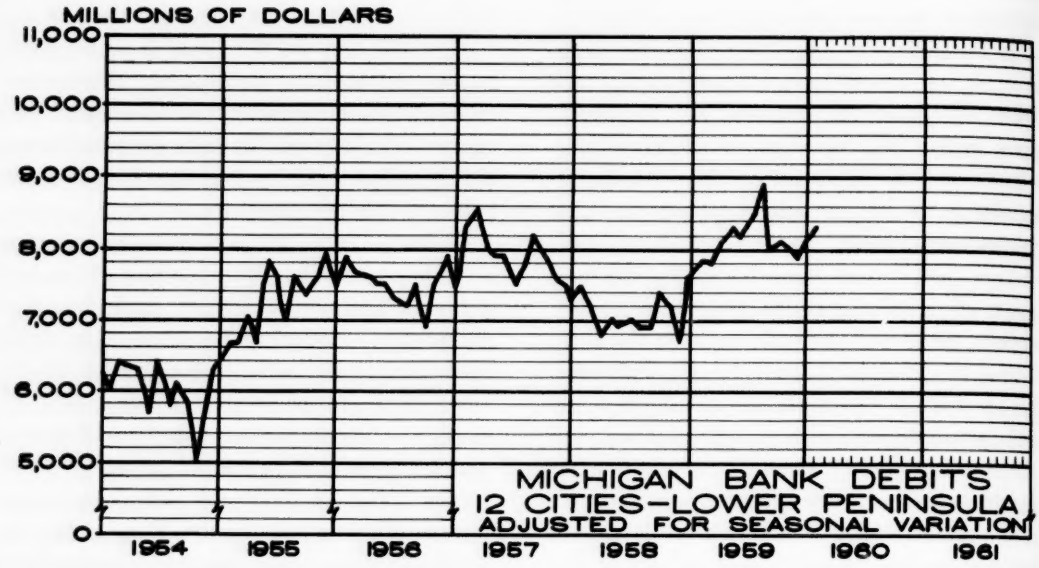
These positive feelings gave a psychological thrust to the "Fabulous Fifties." As Katona puts it:

"For many decades the American people have been unwilling to accept permanent class differences and have been strongly impelled to emerge from low economic status. The psychological basis of prosperity is perhaps an extension of these strivings.

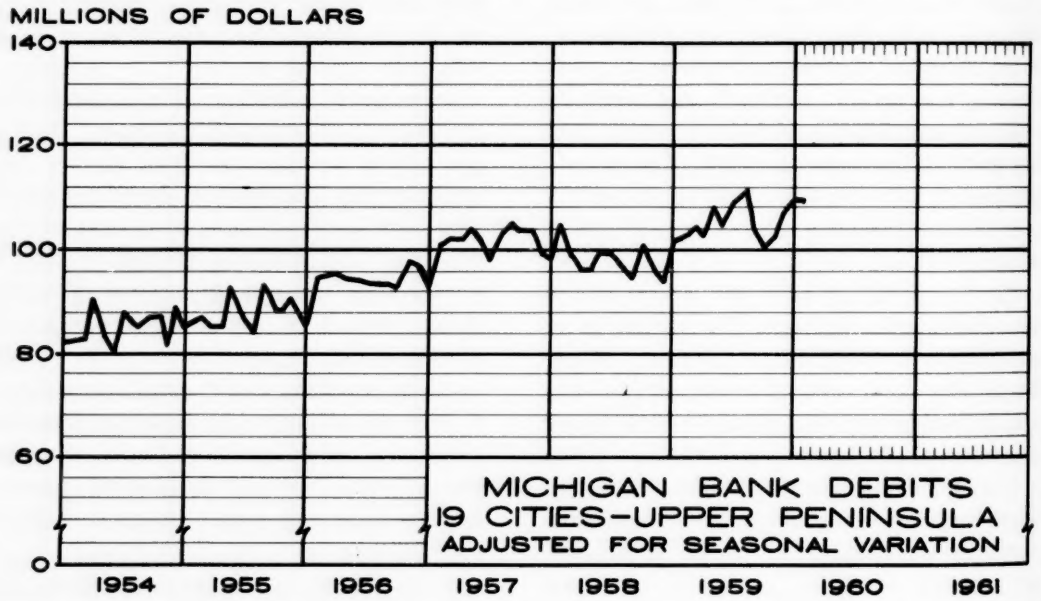
"What we have is not good enough, even if it is not poverty but rather middle-class comfort or perhaps, compared to what we had before, even affluence. Only to move up and to acquire more and better things and higher status satisfies us.

"The postwar decade has demonstrated that such sentiments represent the heart of the psychological climate in which prosperity flourishes."

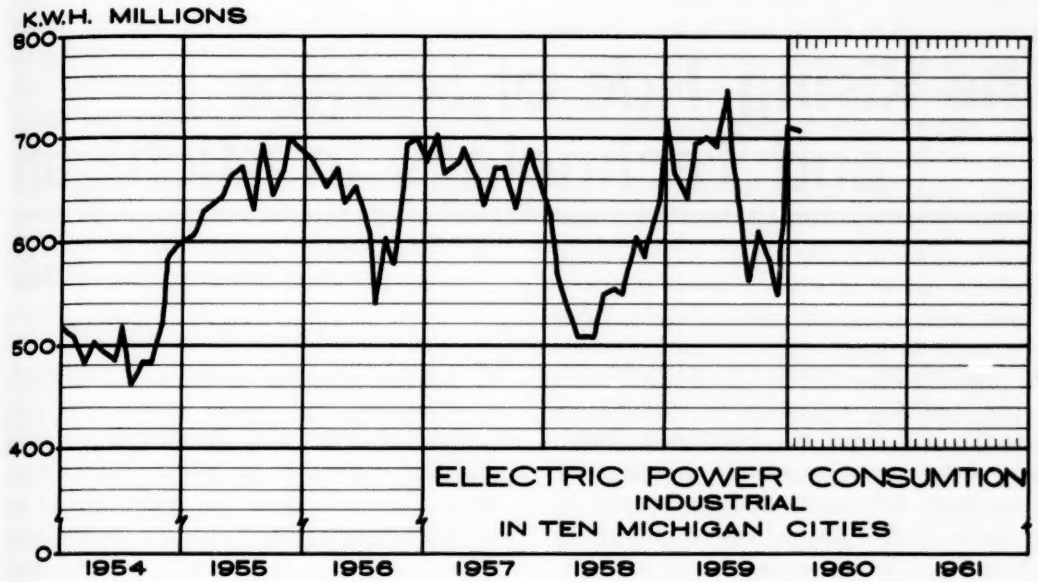
Michigan Business Indicators



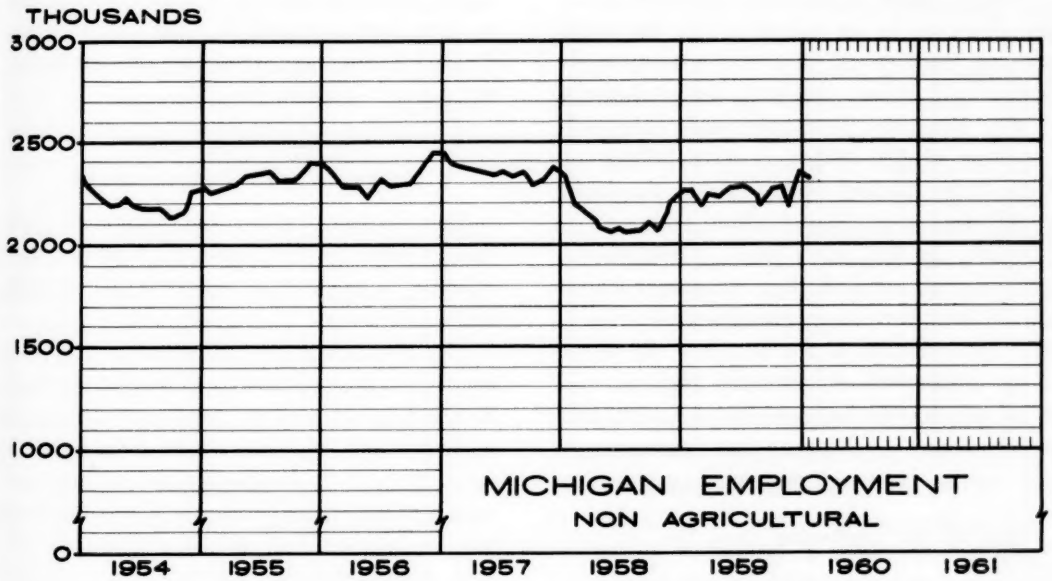
BANK DEBITS–THE MOST ALL-INCLUSIVE MEASURE OF BUSINESS ACTIVITY–Bank debits show a high level of business activity for the month of February. It should be pointed out, however, that part of this sharp increase should be attributed to the fact that February had an extra banking day this year. Correcting for this non-seasonal Leap Year variation results in a level of about $9.3 billion. Bad weather in March helped hold down that month's economic activity.



UPPER PENINSULA BANK DEBITS–The same analysis applied to the Lower Peninsula can be applied to these figures. In considering the Leap Year variation, the February figure drops to about $115 million.



POWER CONSUMPTION—Industrial production continued on the upswing during February and March after a slow period in January. The automobile industry recorded its best February in history for plant output.



MICHIGAN EMPLOYMENT—Employment of wage and salary workers dipped slightly in the first quarter of 1960. Slow starts in the construction field, due in large part to the bad weather experienced in the late winter, were the significant factors in this drop.

• *The role of the new Institute in*

The Rising Tide of Science and Technology in Michigan

Robert R. White

IN 1960 we find ourselves in the middle of a technological and scientific explosion of incredible and sometimes frightening dimensions. Forty years ago—in 1920—the total expenditures for research and development in the entire United States was roughly $100 million. In 1930—ten years later—it was $300 million; in 1940, $700 million; in 1950, $2.9 billion; and in 1960, our total expenditures will be $12 to $14 billion.[1] Since 1920, the expenditures have roughly tripled every ten years.

Twelve billion dollars is a fearsome number. Compare it, for example, with the gross sales of the General Motors Corporation in 1958 of $10 billion, and with the total assets of the American Telephone and Telegraph Company of $20 billion. Twelve billions of dollar bills, stacked about 200 to the inch, would reach from New York to Chicago.

Within the last thirty years, scientific and technological research has become a large activity that introduces fundamental changes into the operation of the economy. In terms of the number of scientists and engineers devoted full-time to technological research, this activity today is more than five times as large as it was in 1930, and measured by the ratio of expenditures to gross national product, it is about thirteen times as large.

It has been said that the scientific and technological progress of the past thirty years exceeds that made from the beginnings of recorded history up to 1930. Perhaps the most important pattern to seek out in recent history is the autocatalytic nature of the stimulus of scientific and technological progress. The rate of scientific progress appears to be directly proportional to the amount of scientific knowledge. The more that we know, the faster the rate at which we acquire new knowledge—and we now know so much that the rate at which we are learning more is not only unprecedented but almost incomprehensible.

A New Industry: Research and Development

There is no question that during the past twenty years we have seen the rise of a new industry, namely the industry of research and development.

The technological explosion of the past twenty years undoubtedly is an outgrowth of World War II and its aftermath. Although scientists and engineers themselves have always favored a humanitarian outlook, science and technology from the very first have had an intimate and sinister connection with war. Archimedes sold his skill to the Tyrant of Syracuse for use against the Romans; Leonardo secured a salary from the Duke of Milan for his skill in the art of fortification;

[1] Chemical and Engineering News, Dec. 29, 1958, p. 65.

About the Author—

Dr. White is Director of the Institute of Science and Technology and Professor of Chemical and Metallurgical Engineering in this University.

and Galileo obtained employment under the Grand Duke of Tuscany because he could calculate the trajectories of projectiles. In the French Revolution the scientists who were not guillotined were set to making new explosives, but Lavoisier was not spared, because he was only discovering hydrogen which, in those days, was not a weapon of war.

The pressures of war are still operating fiercely in our technological explosion, as indicated by our tremendous national efforts in missiles, nuclear energy, and weapons systems.

The Great Issue Before Us

In the last analysis, however, our major problem is not one merely of building bigger missiles, going to the moon, and developing cleaner hydrogen bombs. The great issue before us is not national defense in its tried and conventional trappings of weapons systems. The challenges of Russian progress to our national survival lie not in their sputniks and/or armies but in the implications of their successes which suggest that their system has produced a large-scale, effectively managed organization capable of creating and applying science to the service of their society. Remember that, for every scientific breakthrough accomplished by a scientist, there are perhaps a thousand supporting scientists, engineers, skilled craftsmen, technicians, managers, administrators, etc., required to obtain a tangible service.

The economic and social struggle with Russia is the broad threat, and the military race is a highly visible facet. Our progress as a nation, and perhaps even the survival of democracy as we know it, depends completely upon our effectiveness in education and research, not only in science and technology, but also in its social implications. Truly, "Human history becomes more and more a race between education and catastrophe."[2]

The Microscopy of Research

Having referred briefly to the cosmology of research in terms of billions of dollars, hundreds of thousands of people, and national survival, I think it is fitting that we should refer at least briefly to its microscopy.

Research is after all an activity of the human mortal being and has all of the recalcitrant characteristics of this organism. This human activity is above all a reflection of his aspirations, curiosity, and just plain "orneriness." The cold, pristine logic of science exhibited by the impersonal, systematic, and objective scientific expositions of our scholarly publications is almost entirely *ex post facto;* a reconstruction of what ought to have been done. Only rarely do the meanderings, the absurdities, the recyclings, and the failures come into view. The spirit of research is that of innovation and adventure—the most reckless kind of adventure into the unknown. It requires courage, stamina, and a certain amount of foolhardiness. Its frustrations are innumerable and its rewards often intangible, explaining perhaps the strong language which often accompanies its interruption. It thrives upon realism and intellectual honesty, and such is its aggressive strength that its revolutionary activity can neither be restrained nor restricted.

However, these reactions to challenges of problems are characteristic of those which have built the United States at a rate and to a degree unprecedented in human history, from the wilderness of 1700 to the technological complex of 1960. The spirit of the human researcher is that which is fundamental to our democratic way of life and must be accepted as one of our articles of faith.

The University Tripod

The traditional basic characteristic of American educational institutions is the concept "teaching—research—service," i.e., the dissemination of knowledge to students, the creation of knowledge, and the dissemination and application of knowledge to the benefit of American society. This tradition says also that teaching, research, and service are inseparable in the sense that one cannot prosper in

[2] H. G. Wells, *The Outline of History,* Chapter 15.

the absence of others. We can conceive of teaching without research and service, but only if restricted to elementary levels and not at the university level. We can conceive of research alone, but yet research without the exchange of ideas and the stimulation that accompanies its dissemination is like the noise of a tree falling in a forest empty of humans. While there are many avenues through which research can be disseminated, the best is surely the teaching process by which new researchers and scholars are developed.

Although teaching and research are perhaps the most important members of the tripod, the absence of service is probably impossible in a state-supported institution and even in private institutions. It is difficult to understand how alumni living in a human society could support any institution, public or private, that did not incorporate a strong measure of service to its surrounding social environment. Service is the adhesive which connects teaching and research to society, and service underlines their real significance and reality. In the last analysis, of course, the development of our human resources through education is perhaps the highest form of service in our society.

New Pressures on the University Concept

The events of the last twenty years, symptomatic of a world in revolution, have placed many pressures—powerful and diverse—on the traditional university concept which, by and large, has performed remarkably well. The principal pressures appear to be the consequences of two phenomena: first, a "population explosion," and secondly, the "scientific and technological explosion."

All of us have heard of the population explosion in India and Asia and in other parts of the world. In the long run, perhaps the most serious difficulty is that with each attempt to improve living standards, the problem only magnifies. This has certainly been our experience in India and Africa where every increment achieved in the living standard has simply led to its saturation through the birth of new children. What we don't quite realize, however, is the magnitude of the population explosion in the United States and its potential effects on education. Many areas of the United States now can offer only "half-time" education to their children in the elementary schools. Our young people encounter increasing difficulty in obtaining admission to our universities. At The University of Michigan we already have one of the largest educational institutions in the United States, and, if we take the population statistics in the State and assume that the same percentage of this population will be qualified and will desire to enter the University, Michigan could grow still larger in the future. It is virtually inevitable that there will be population pressures for a rise from the State's current college enrollment of 150,000 to 328,000 by 1970. There is evidence that this is a conservative estimate since the percentage of students desiring a college education appears to be steadily on the rise.

Our recent budgetary experience, particularly with respect to capital outlay, raises the formidable specter, on the one hand, of coping with far too many students in inadequate facilities with insufficient faculty or, on the other hand, sharply restricting enrollment to only relatively gifted students, a concept which is not only repugnant from a democratic viewpoint but which makes no sense at all in view of the national need and the State's need for a well educated populace.

Investment in Education

The technological and population explosions with their overwhelming consequences in education and research are social phenomena on a world scale, and no longer can universities feel that they are marching alone in the cause of education and research.

It seems clear that we must all recognize the mutual interests of all parts of our society which are common to those interests of the University in the area of research and education. It seems clear that, if we are to cope with the mounting problems of educating large

numbers of young people and digesting and putting to good use the vast scientific and engineering knowledge now available and now being generated, we must all of us work together to find new patterns and new means of accomplishing our tasks. No longer can we regard educational institutions as advanced "baby sitting" organizations but they must be considered to be an integral part of one of the most important social activities of our population.

On the one hand, it is the responsibility of our educational institutions to use every means at their disposal to improve the efficiency, economy, and excellence of the teaching process. There is much that we have to learn about how humans learn. It is embarrassing sometimes after being a teacher for eighteen years to have to admit that I am not sure how this happens.

We must continue, of course, with the problem of human learning—the essential business of the university—but we cannot and must not do it alone in a carefully compartmentalized box bounded by legislative appropriation and the scrounging ability of the faculty to obtain funds for research. Society cannot dispose of educational and research problems by "referring them to the experts" and turning its back on an activity which is essential to its welfare. We must have real interest, support and an intimate communication with our State government, with our industry and with our people. We must have a long-term investment by our society in education and research—an investment of time, money, and interest by people in their most important resource, their young people.

The Destiny of the State in Science and Technology

The State of Michigan has a primary role in the kaleidoscope of an exploding technology. Long a leader in mass production techniques for heavy equipment, in chemicals, pharmaceuticals and many other fields, Michigan has played and is still playing a vital production role in the United States. This excellence in production may have inhibited the development of research capability such as has occurred in New England and California. However, Michigan has space, water, easy access to all of the USA, a climate which is interesting and stimulating, unparalleled production experience, a reservoir of skilled and experienced labor unequalled in the world, and a strong school and university system. This combination of experience, geography, and a capable population form the basis for a powerful research complex from which new industries and the future development of existing industry will surely come. Furthermore, properly planned, such development can be broadly based upon our State and national needs rather than a captive of military requirement.

It is particularly significant that even though ensnarled in one of the most controversial and difficult sessions in its history, the State Legislature last year appropriated operating funds for the Institute of Science and Technology in response to the manifest destiny of this State in science and technology.

The Institute of Science and Technology

While the general pattern of research institutes has usually conformed to the development of specific solutions to specific problems, there is no such constraint or specification on the Institute of Science and Technology. Rather the Institute of Science and Technology is directed towards the establishment of a favorable research climate in the State of Michigan and hence the attraction of outstanding scientists and engineers to the State. This, we must all agree, is a long-range and remarkably sophisticated concept which has commanded State support. Most significant is the fact that, for the first time, the State has specifically recognized research in a broad area as a long-range State investment.

The Institute of Science and Technology may support research and researchers independent of their location in the State and independent of teaching budgets or of research contracts. This is a highly unique and, we

hope, powerful capability. Another basic difference is the clear implication or even directive that the Institute's activities should be State-wide. Again this represents a distinctly different relationship between the University and the Institute as compared with the usual arrangements.

The prospect is a bit intoxicating. Here is a synthesis of some of the dreams that I have heard of in connection with this Institute.

First of all, the Institute would be in the center of a vast, scientifically-oriented industry based on pioneering research in electronics, nuclear power, exotic chemistry, high energy physics—automated beyond belief and supporting a society of scientists and a supremely skilled technical labor force in a culture of high living standards with adequate leisure for true civilization—all of this in harmony with a great matrix of universities, well supported by a society which understands and appreciates the meaning and significance of knowledge—a technological center in close contact with the people, their industry and their universities—an organization to which all scientists and engineers would belong in company with their academic brethren.

Space Science and Technology

During these first few months of our operation, we have begun the realization of these dreams. During the initial development of the Institute programs, it has been clearly desirable to select a focus of interest in order to give coherence to the over-all program rather than to attempt to cover unlimited possibilities in the entire area of science and technology. The subject of Space Science and Technology was selected because: first, it is growing at a rapid pace and already identifying many new and interesting possibilities for future industry; second, substantial interest in the field has clearly been demonstrated by Michigan industry; third, new industries are a highly probable result of such research, particularly in the areas of communications, electronic components, and fuels; and, fourth, the highest caliber of scientists and engineers are interested in and needed for this field.

However important and promising the area of Space Science and Technology, it would be a mistake to invest all of our efforts in an area which is so sensitive to the tides of military and federal expenditures. Therefore, we are diversifying our efforts to include other areas of direct interest to the State. One of these is the Great Lakes Research program which undertakes to develop a more lucid understanding of the physical, chemical, and biological properties and mechanisms, in and over the Great Lakes and its tributary waters, and the socio-economic structure of the populace surrounding them. This program encompasses the areas of zoology, botany, limnology, oceanography, hydrology, meteorology, and fluid dynamics. The consequences of this program on the most important body of fresh water in the world will involve commercial and sport fishing, power generation, municipal water supply, industrial needs, recreation, navigation, and even national defense.

In all of these programs, the funds of the Institute are used to "seed" the development of new and on-going programs. It is already clear that the investment of a dollar of Institute money will produce support from other sources in a large ratio.

Results to Date

While time does not permit a detailed discussion of all of our activities, here is a summary of our results to date:

1. As of June 30, 1960, more than fifty of the most distinguished scientists and engineers in the world will have participated in lecture programs, seminars, and research discussions and conferences in the State of Michigan. These include two Nobel laureates, the President of the International Geophysical Year, the Director of the Yerkes Observatory, the Director of the Karolinska Institute of Sweden, and younger men who are excellent prospects for similar distinction. The countries represented include West Germany, Sweden, the Netherlands, and England.

2. Lecture series in "Space Astrophysics,"

"Molecular Control of Cellular Biology," and "Trajectories, Guidance, and Control of Space Vehicles" will have been made available to all scientists and engineers in the State. These series will be published in monograph form.

3. The Institute has participated in a vital manner with the establishment of a high energy plasma—Mach 20 wind tunnel program at Ann Arbor. This frontier field of science is in the vanguard of the most advanced aspects of the missile and astrophysical program of NASA.

4. The programs in radio astronomy have been powerfully supported through the establishment of laboratory facilities in rehabilitated space.

5. Institute research appointments have been made in the areas of geophysics, astronomy, aeronautical engineering, engineering mechanics, physics, physiology, chemistry, zoology, mathematics and communication sciences.

6. Fellowship support to graduate students in science and technology at The University of Michigan, Michigan State University, and Wayne State University has been approved.

7. Arrangements for cooperation with other schools and universities of the State are under active exploration.

8. Proposals for the establishment of new research groups in the State have been prepared in cooperation with local and State agencies.

9. Initial steps have been taken to develop a mailing list of all scientists and engineers in the State, to prepare the first four issues of a publication for them, and to arrange library and research services on a self-liquidating basis.

10. Exploration of industry cooperation and advice and counsel is now in progress.

This partial list of the activities of an infant, only six months old, reflects the number and merit of proposals for action and is a gratifying substantiation of the soundness of the concepts upon which the Institute of Science and Technology was established.

It is already clear that in establishing the Institute of Science and Technology, the State of Michigan has taken a courageous step in providing leadership in the development of that most important resource of the State: its people and their education. The Institute of Science and Technology is a unique and powerful arrangement which is sound in its concept and limitless in its potentialities for capitalizing research to the benefit of the State of Michigan.

BUSINESS BOOKS, 1959

The October-December 1959 issue of *Business and Technology Sources,* bulletin of the Business and Technology Department, Cleveland Public Library, is the annual list of some of the outstanding business books of the year.

The 110 titles, each briefly annotated, were chosen for the clarity and insight with which they deal with newer trends and tools in the business field, and their relation to the evolving character of business enterprise.

Titles are listed under these headings: Business Enterprise; Administration; Forecasting, Evaluation, and Decision Making; Industrial Management; Accounting; Advertising and Marketing; Automation; Personnel Relations; Collective Bargaining; Wage Administration; Public Relations; The Office; Overseas Trade and Investment; Investment Management; and Business Histories.

Copies are available at 25 cents each from: Order Department, Cleveland Public Library, Cleveland 14, Ohio.

• *Information about six great financial organizations in Washington*

New Sources For Financing Your Foreign Operations

Walter Erskine

IN a Washington hotel, three businessmen from Cleveland were listening in amazement to two Argentinians who had just concluded negotiations for an $800,000 loan from one of the international lending institutions in Washington. Their amazement was natural enough. Here were two Latin-Americans, barely able to speak English, familiar with major banking institutions the two Clevelanders had never heard of. Furthermore, they were financing an important expansion in Buenos Aires where interest rates tend to run high, at rates that would sound attractive in Cleveland.

Public and Private Funds

The tremendous outpouring of *public* American funds has been fully publicized. In the period of 1951–1957, when the need for purely post-war emergency aid was definitely over, such government loans and grants amounted to $16 billion, excluding direct military expenditures.

Far less well-known, however, is the fact that overseas investment by *private* American enterprise is almost as great. During the same 1951–1957 period, it amounted to $13.5 billion.

Still less publicized is the extent to which the United States has taken the place of England as the leading "foreign" investor. At the end of 1958, aggregate direct investment by American companies overseas, including reinvested local earnings, totaled $27.1 billion. By comparison, according to the latest figures available, in 1956, direct private investment by English companies outside the United Kingdom amounted to roughly $3.9 billion.[1] London is still the banker for the Commonwealth and for the broader sterling area. But even for those countries, the financial center has shifted to the United States.

Of course, big New York banks like Chase-Manhattan, and investment houses like Lazard-Frères with large foreign investment departments, still assume the normal private international banking functions. Partly because domestic requirements for loan capital have been growing, partly because of fear of the risks involved in overseas investment, and to a certain extent even because of plain lack of knowledge of overseas financing, private loan capital has not been available in suffi-

About the Author—

Walter Erskine has been on the international side of the General Tire and Rubber Company's business since he was graduated from the Harvard Business School, in 1951. He has lived and worked abroad, and is now stationed in Washington, D.C.; and serves as financial adviser to the Vice President in Charge of Foreign Operations. Last year he was an alternate member of the Latin American Committee of the Business Advisory Council. This year he is a member of the Foreign Investment Committee and the Committee on Distribution of the International Chamber of Commerce.

[1] United Kingdom overseas investments, 1956, Bank of England, 1958. This Bank of England figure is not fully comparable to the U.S. figure because only "companies operating wholly or predominantly abroad" are included. Insurance and shipping companies are excluded.

cient amounts for the growing industrial expansion abroad.

International Financial Organizations

This gap is being filled through default by the U.S. government and international financial organizations. In Washington, lending institutions whose sole function is the furtherance of foreign investment and trade are growing like mushrooms. Three wholly U.S. government-owned agencies and three international organizations are now in this field.

In modernistic buildings, not far from the State Department, are the international organizations owned and controlled by between 60 and 70 nations, depending on the organization: the International Monetary Fund; the International Bank for Reconstruction and Development, more popularly known as the "World Bank"; and the International Finance Corporation. Not far away, are the U.S. government agencies: the now-25-year-old Export-Import Bank; the Commodity Credit Corporation; and the brand-new Development Loan Fund.

Between them and two new ones listed below, these financial institutions will command an authorized capital of $45.3 billion. This is more than this year's $40 billion defense budget of the United States. Even more meaningful might be a comparison with 1957 auto and parts sales, which amounted to $16 billion.

New Agencies Still Being Formed

And the end is not in sight. At the time of this writing, two additional international lending institutions are in various stages of development and show every sign of actually being born. But both—the Inter-American Development Bank and the International Development Association—are brand-new and it is too early to tell just what practical services they will be able to give to private business. Nor is it yet quite clear what they will provide that the older and more established institutions could not already furnish. Both have strong political implications and, if they have one thing in common, it is their basic, underlying purpose to provide longer and much "softer" loans to the under-developed areas on terms that the present institutions would not want to undertake.

The Inter-American Development Bank

The Inter-American Development Bank, with a capitalization of $1 billion, has now been ratified by the Latin American Republics, as well as by the United States. The Board of Governors has just held its first meeting in El Salvador and actual operations are scheduled to begin in the next few months. The United States is subscribing $350 million, or 41 per cent of the total "ordinary" capital. But—and this shows the basic thinking—there will also be a so-called "Fund for Special Operations" of $150 million, of which the United States provides $100 million. In addition to being extremely long-term, the loans from this Fund will be repayable in the country's own currency, rather than in dollars or other convertible currencies. Whatever else happens, it is hoped that, unlike other such institutions in the past, the Bank will enlist the support of the Latin American countries themselves, now that they are to act as lenders as well as borrowers.

The International Development Association

The new International Development Association, again with a capitalization of $1 billion, will be the "soft loan" subsidiary of the World Bank. It has now been submitted to the member governments of the World Bank for ratification. The U.S. Administration has approved it and, when the United States Congress approves, as expected, the U.S. contribution of $320.09 million, we will have another international bank in business.

So broad are the Articles of the IDA that they merely provide that the form and terms of loans shall be such as IDA "may deem appropriate." Even loans entirely free of interest are envisioned. A rather clear hint of things to come is the division, for the first time officially contained in a charter, between the

"haves" and the "have-nots." Seventeen specifically-identified, industrialized member countries of the World Bank pay in 90 per cent of their subscriptions in the form of gold or freely convertible currencies. On the other hand, 51 under-developed countries will pay in their 90 per cent in their own currencies. Only the remaining 10 per cent are subscribed by all countries in gold or convertible currencies.

What Can They Do For Business?

Whether all these institutions are necessary, whether private capital could do it alone, or do it better, whether the duplication of effort results in waste—all these are questions that should be discussed elsewhere. The fact is that these banks exist, and that they are here to stay. In fact, every sign indicates that regardless of whether they multiply or are consolidated into one or two big organizations, their aggregate loaning power will significantly increase over the next few years.

The businessman managing overseas operations who does not take advantage of these institutions is just not using one of the available tools. Without going into all the legal details, a brief agency-by-agency summary is the best way to show just what these programs offer.

"Cooley Amendment" Loans

The program of "Cooley Amendment" loans is one of the newest and least "bank-like" operations. It is one of the most revolutionary programs because it provides heretofore unavailable long-term foreign currency loans *repayable in foreign currency*. This, of course, makes it useful to business because it provides financing of foreign operations without sending dollars abroad.

At the moment, the foreign currency equivalent of roughly $251 million is available under this program. For India alone, for example, 93.3 million dollars worth of rupees are available. Over the years, as the powerful farm interests in Congress push for more and more overseas disposal of our agricultural surpluses, these amounts will almost certainly increase tremendously.

The program is a direct outgrowth of our agricultural surpluses. In 1954, Congress established a program for selling surplus agricultural commodities abroad and, for the first time, provided for re-payment in foreign currencies. As a result, we have now accumulated $4 billion worth of foreign currencies, and this is estimated to rise to $5 billion before the end of 1960. With foreign currencies "coming out of our ears," Congress in August, 1957, enacted the so-called Cooley Amendment to Public Law 480, which basically provides that up to 25 per cent of these foreign currencies can be lent to private business. The well-established Export-Import Bank, which over 25 years has earned the confidence of bankers and businessmen throughout the world, was named to administer the program. Briefly, the Bank may lend the Cooley funds to any American firm, branch subsidiary, or affiliate for business development or trade expansion in the country which issued the currency. About the only major restrictions are that the funds cannot be used for agricultural or industrial goods which could be in competition with U.S.-made products.

There are no uniform interest rates, the only rule being that the Bank charges the same rate as is used by the local Development Banks in each country. Although there are no particular restrictions on terms, Cooley Loans tend to medium to long terms, with a minimum of one year. A typical example of a Cooley Loan is one recently made to Sears, Roebuck of Mexico for 10 million Mexican pesos ($800,000) for "machinery and equipment for retail merchandise activities." The loan, at 10 per cent interest, was re-payable in ten semi-annual installments. If this sounds like a high interest rate, it must be remembered that in these lesser developed countries, in most cases, long-term loans of any kind are impossible to obtain.

The Export-Import Bank

This is the oldest (1934) and perhaps most

sophisticated of all the agencies discussed here. Although definitely an agency of the U.S. government and created by Congress, it is a bank in every sense of the word. With the paid-in capital of $1 billion, retained earnings of $486 million, and authority to borrow up to $6 billion from the U.S. Treasury, it now has total resources of $7.5 billion.

The main purpose of the Bank ("Ex-Im") is to encourage U.S. exports. It differs, therefore, from other agencies in that any materials, machinery, or equipment financed by Ex-Im must originate in the United States.

There are basically three types of Ex-Im dollar loans, all of which are available to private enterprise:

1. Development Credits: These are in support of construction of large enterprises. In such cases, Ex-Im extends credits for most major and many smaller suppliers of the project. For example, in February, 1956, the Bank authorized a $35 million loan to Cia. Siderurgica Nacional—Banco do Brasil for steel mill equipment for Brazil. The loan carries 5 per cent interest.

2. Exporter Credits: These provide smaller loans to assist U.S. manufacturers in sales of capital equipment that could not be entirely financed privately. An example is a $136,000 credit made to Allis-Chalmers for the sale of Diesel tractors to "Sotema" S.A., Brazil.

3. Commodity Credits: These assist in sales of U.S. agricultural commodities abroad. Over the years, the Bank has made loans of over $900 million to assist in the sale of more than 5 million bales of cotton.

Since the Bank feels that short-term loans can be obtained through private channels, there has been an effective minimum term of one year. Interest rates vary anywhere from 3½ per cent to 6 per cent. In the case of machinery and equipment loans, terms are usually from three to five years; whereas on development loans, five to fifteen years are usually allowed.

A point of major interest is that Ex-Im is particularly interested in making small as well as large loans—on the same basis. In 1959, more than half of its exporter credit transactions were under $250,000. The smallest transaction the Bank has ever made was for $500.

Another aspect of Ex-Im operations which is important is the extent to which private investors participate. During the period of July 1 to December 31, 1959, for example, of 105 credits for $227.7 million approved, 59 credits had private investment participation amounting to $84.7 million. These foreign loans and investments by private participants are for their own individual account and at their own risk, without guarantee from the Export-Import Bank. $67.1 million came from commercial banks. They take the form of either (1) loans extended concurrently with loans from Ex-Im to the same borrower, (2) assumption of a portion of credits authorized during the period by Ex-Im, or (3) purchase of obligations held by Ex-Im.

Development Loan Fund

Set up in September, 1958, as an independent U.S. government agency, this is the newest and least experienced of the financial agencies. Its primary aim is to make loans in cases which the other agencies, because of their far stricter business criteria, cannot make. The DLF recently received a great deal of publicity when the Administration used it as a weather vane to indicate a basic change in American foreign economic policy. Previously, loans could be used for purchases on a worldwide basis. Now, all purchases must be made in the United States. The reason for this was to call attention to the much-publicized adverse trend in the United States' balance-of-payments position.

The agency is a direct outgrowth of the old Marshall Plan—Mutual Security Agency concept, but with the very commendable change of emphasis on loans rather than grants. Unfortunately, until now, there was some variance between its purported aims, based on Congressional intent, and actual practice. There was a lot of talk about "assisting private enterprise" and "using business-like methods."

In practice, this agency is so new that it has not yet developed the policies or the personnel to carry out such a program with the assurance of, for example, the Ex-Im Bank. Until very recently, even the top administrative staff was drawn largely from other government agencies, where the underlying philosophy continues to be one of government-to-government rather than bank-to-corporation dealings. A hopeful sign of change in this approach is the recent appointment of the DLF's new Managing Director, Mr. Vance Brand, formerly of the Ex-Im Bank.

Help For Under-Developed Areas

Before business becomes too critical of the methods of the Development Loan Fund, it must be remembered that, unlike the other agencies, the DLF is clearly still a political arm of the United States government. This is underscored by the fact that its Chairman of the Board is the Under-Secretary of State, C. Douglas Dillon. As such, the basic policy is to provide economic assistance to the so-called under-developed areas like Southeast Asia—with or without private enterprise.

Typical of the sort of loan the DLF has been granting is one recently made to the Central Bank of Argentina for $24,750,000, to finance transportation power and "industrial projects which are parts of an over-all program for rehabilitating . . . Argentina's productive capacity." Much rarer are such loans as one of $190,000 to help a joint Liberian-American private enterprise expand its logging and sawmill operations.

While the majority of loans are being made in the public sector, a few loans to private enterprise are being granted. Therefore, the main point to keep in mind is that here is still another agency which last year made loans of $765,456,000, and which has received another Congressional appropriation of $700 million for loan operations in 1960.

The DLF prefers to make loans of about $200,000 and will not consider applications below $100,000. Interest rates and terms are handled on an individual case basis, but rates have run around 5½ per cent and maturities have varied from 3 to 40 years.

Commodity Credit Corporation

The last U.S. government agency can be described briefly here because of its highly specialized nature. The Commodity Credit Corporation is an agency of the Department of Agriculture and its credit program is limited to the promotion of U.S. exports of surplus agricultural commodities. It covers shipment to any foreign country, and financing is limited to three years. Rates vary from 2⅝ per cent to 3⅝ per cent per annum, with bank charges added. Commodity Credit Corporation rates are purposely kept higher than those of commercial banks

The World Bank

Of the international agencies, the International Bank for Reconstruction and Development, popularly known as the World Bank, is the biggest and most important.

To the management and engineering consultants sufficiently large and well-enough organized to be able to send staffs overseas and handle large government or quasi-governmental projects like dams and railroads, etc., thorough familiarity with the World Bank is an absolute *must*. The Bank practically never undertakes a project without the assistance of professional consultants, and its insistence on the highest standards in project investigations has gone a long way in helping to introduce American professional consulting methods overseas. Partially, at least, for this reason, well-informed major consultants—like Booz Allen and Hamilton—maintain a Washington office.

The World Bank now has 68 member countries, which have just recently decided to increase their subscriptions by 100 per cent, thus creating a total authorized capital of $21 billion. Of this, only 20 per cent is actually paid in, partly in gold and dollars, and partly in local currency. The United States accounts for $6.3 billion, or about 34 per cent of total subscriptions. Between its beginning in 1946 and

March 15, 1960, the Bank had made 254 loans, totalling over $4.964 billion to finance over 600 projects in 52 countries. But, as was mentioned earlier, most of the loans are for giant governmental or semi-governmental projects, such as the $80 million loan at 5 per cent interest made to the Federal Power Board of Rhodesia and Nyasaland for electric power equipment.

International Finance Corporation

Of far more direct practical interest to the average American businessman is the World Bank's daughter organization, the International Finance Corporation, which was specifically created for direct private enterprise financing on an international level.

This unique organization, despite its youth —it was started in 1956—has a highly experienced staff which is thoroughly private enterprise-minded. Perhaps too much so, according to some facetious commentators who point to the fact that IFC not only charges 6 to 7 per cent interest, but also wants a share in the profits as well. These critics also point to the slow start the IFC has made. It is true that, as of January, 1960, out of a total subscribed capital of $93 million, the IFC had made commitments totalling only $22,637,000.

But this agency is starting out on completely unchartered waters. This is definitely no government hand-out program. Loans are made to private companies only, and IFC neither wants nor accepts government guarantees. The most interesting departure is its policy of participating in profits. Prohibited by charter from investing in equity securities, it tries to obtain convertible debentures, subscription warrants, or some other form of rights, to obtain capital stock or shares.

Loans are usually from five to fifteen years, and for a minimum of $100,000. As a rule, loans are for dollars only, but recently two arrangements were made in Mexico, where 50 per cent was repayable in Mexican pesos. Some high officials of IFC hope that this aspect of the program can be increased in the future.

One of the larger but typical loans made by the International Finance Corporation was for $2,450,000 to Willys-Overland of Brazil, for an expansion program for the production of jeeps in Brazil. The loans carried an interest rate of 7 per cent, plus participation in profits and an option on shares. It was also typical in the sense that IFC was joined in the project by a substantial investment by American Overseas Finance Company and the Chase International Investment Corporation.

International Monetary Fund

To complete the picture, at least brief mention must be made of the International Monetary Fund, although it does not make direct loans. Like the World Bank, it is an outgrowth of the post-war Bretton Woods Conference. It might best be described as a kind of international Federal Reserve System. In some respects, it has taken the place of the old gold standard, which became defunct after World War I. Basically, it provides the machinery for the orderly adjustment of exchange rates. The Fund is a common pool of $14.3 billion worth of currencies subscribed by the 68 member countries. During temporary payment difficulties, each member can buy foreign exchange from the Fund with its own currency. The foreign exchange is to be returned in not more than 3 to 5 years. Without this important agency in the background, international trade would undoubtedly be subject to the famous multiple exchange rates of the inter-war period and to even severer restrictions than we now face. In such an unfavorable climate, the other agencies described here not only could not operate, but would have little reason for existence.

Expanding Foreign Operations Need Financing

As things stand today, foreign trade is becoming an increasingly important segment of American business, which used to regard it as a side line. In 1958, for example, Colgate-Palmolive had domestic sales of $271,322,000 and almost equally high foreign sales of $262,-

725,000. Even more significant is the fact that foreign profits during the same period were $8,131,000, while profits from the higher domestic sales were only $7,180,000. Goodyear's and DuPont's 1959 foreign earnings accounted for 30 per cent and 27 per cent, respectively, of total earnings. Sterling Drug, Gillette, Chas. Pfizer, I.B.M., National Cash Register, Singer Sewing Machines and H. J. Heinz, all now do between one-third and one-half of their business abroad. To these companies, and to many small ones, the growing financial institutions in Washington are of prime interest and importance.

INDUSTRIAL RELATIONS BY EXPERTS

FRONTIERS OF INDUSTRIAL RELATIONS. Robert D. Gray, Editor, Industrial Relations Section, California Institute of Technology, Pasadena, California. 1st Edition October 1959. (Price of $15 includes clothbound 2nd edition due in 1960)

Reversing the customary pattern of *receiving* birthday presents, Caltech's Industrial Relations Section has *given* one for every industrial relations practitioner and scholar—to honor its own twentieth birthday. We should all be quite happy about it, too.

For one thing we should be delighted that Caltech has prospered for twenty years and contributed so mightily to the field of Industrial Relations. More in point, however, we have a volume that's packed with insightful, reflective, and original materials surveying the past—only slightly—and looking ahead with much perspicacity and depth.

To mention but one of its many virtues the volume has among its contributors a veritable "Who's Who" among thinkers and do-ers in Industrial Relations. From the first essay on the "Dynamics of Industrial Relations" by the editor, to the final article by Lawrence Appley on "The Challenge to Industrial Relations" each piece is by a genuine expert. Collect such thinkers as Robert Burns of Chicago, Richard Lester of Princeton, Paul Pigors of M.I.T., Dale Yoder of Minnesota (now of Stanford), Waldo Fisher, emeritus from Penn, and you have a stratum of the best in academic Industrial Relations among the authors. You'll also find such figures as Charles Walker writing on the automatic factory, and Charles Redfield writing on communication.

One of the admirable features of the first edition is a format which leaves a three-inch margin on each 8 by 11 inch page for "notes" which suggest that this book would be a tool for thinking men, and for students, and isn't merely a *festschrift* to an institution (if such a thing is correct) but is meant to serve as a book of readings for the personnel and industrial relations student; or as a guide for training and management development sessions in industrial organizations.

One of the requirements of a reviewer seems to be to point up any omissions or ways in which the book could have been better. I'm hard pressed to do so. If I were really put to it, however, I'd probably say that in the area of management appraisals the excellent article on the subject by William Oncken of the New York Central might have been matched by one by McGregor or Rensis Likert on the "management by objectives" type of appraisal. This has been a great controversy in recent years, and promises to be even more so in the future. Dwight Zook of North American Aviation states the problem in his article on appraisals in limited form when he asks: "Why don't we act like managers instead of psychologists when we appraise people?" The fact that General Mills, Merck, General Electric, and others have already abandoned the traditional management appraisal systems isn't mentioned.

If this seems a little like cavil, it is. This is no blemish on a very fine book which does the Caltech institute proud in its twentieth year. We can certainly hope we don't have to wait another twenty years for such an important work again.

—George S. Odiorne, Director, Bureau of Industrial Relations, The University of Michigan

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